**sGSL Plankton Sampling Study**

**When**

* End of August and beginning of September, 2019
* May 6-16th, 2021
* August 26th-September 14th, 2021 (Scheduled).

**Why?**

**2019 :**

* Monitor ocean acidification through measurement of pteropod shell thickness.

**2021:**

* Further develop sampling method
* Monitor ocean acidification through measurement of pteropod shell thickness.
* Snow crab larval abundance (megalopa)
  + Hypothesis: higher concentrations of snow crab larval settlement at the intersection of the thermocline (< 10 meters) and appropriate bottom habitat.
  + Concentration of snow crab megalopa in relation to the thermocline (i.e. at different depths).

**What?**

**2019 :**

* Vertical plankton tows through the water column.
* Some exploratory horizontal tows were performed.
* No double mechanism was used in 2019. Such a mechanism is used to initially open a closed plankton net that is being cast, followed by a messenger weight to close the net once sampling is completed. Thus, there is more uncertainty as to the volume/distance of the water column being sampled.
* Main target were pteropods for ocean acidification monitoring, through snow crab larvae were caught.
* Samples are being shared with other projects targeting Calanus sp. abundance, related to Right Whale feeding patterns (Institut Maurice-Lamontagne & Marine Mammal Group).
* Tested the effect of two fixative agents (formaldehyde and ethyl alcohol) on pteropod shells.
* No obvious signs of acidification on pteropod shells via SEM photomicrographs.
* Samples may be mixtures of pteropods and/or heteropods.

**How?**

**2019 & May 2021:**

* Plankton nets:
  + 75cm hoop ring diameter
  + 3 meter length
  + 200 micron mesh size.
* Star Oddi TD probe.
* Mechanical Flowmeter (General Oceanics).
* Real-time depth probe (2021 only).
* Colorimeter measurements (May 2021), to link with Calanus sp. abundance.

August 2021:

* Plankton nets mesh size is 335 micron mesh size.

**Who?**

* Renee Allain, Mikio Moriyasu, Rita Landry, Stephanie Boudreau (2019).
* Renee Allain, Mikio Moriyasu, Katherine Landry (2019).

**Where?**

**2019 & 2021:**

* Offshore from Cheticamp (Western Cape Breton).

Physical Samples:

* Physical sample room 135 (2019 & 2021), jars with fixative and larvae.

**Data:**

* 2019 – Set of SEM photos.
* 2021 – Colorimeter observations, larval abundances (snow crab only).